

# Fish Chain Traceability and The Tracefish Project

Næringspuls

Skrova, Fiskeridepartementet, 07.01.03

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# Agenda

- Traceability, focus on Chain Traceability
- Tracefish-standards

# Definition of traceability - ISO 8402

## Traceability:

*Ability to trace the history, application or location of an entity by means of recorded identifications.*

In a product sense, it may relate to

- the origin of materials and parts
- product properties
- the product processing history
- the distribution and location of the product after delivery

# Types of traceability

## → Internal traceability

Your own data

## → Chain traceability

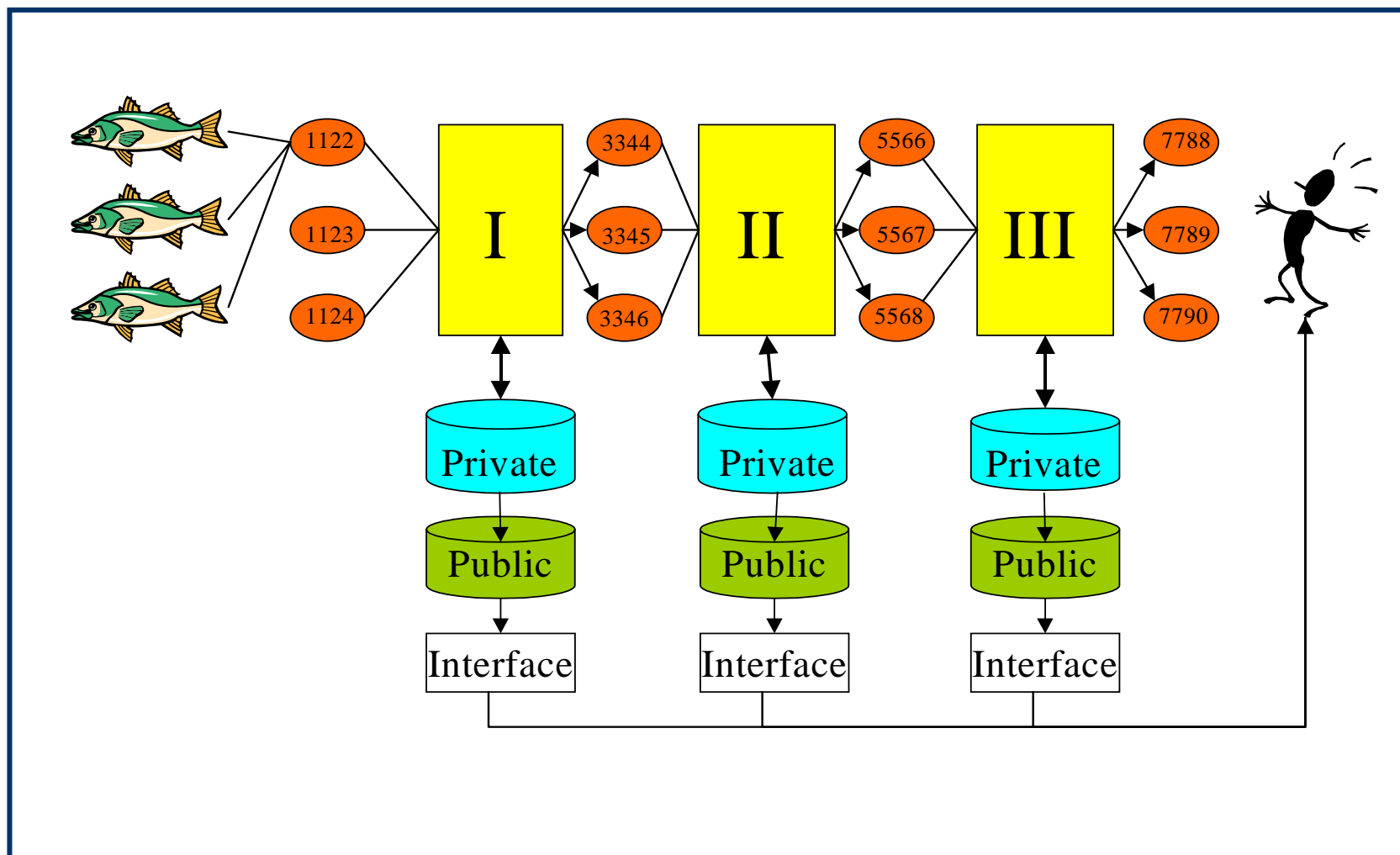
The data you get (and give)

## → Traceability control mechanisms

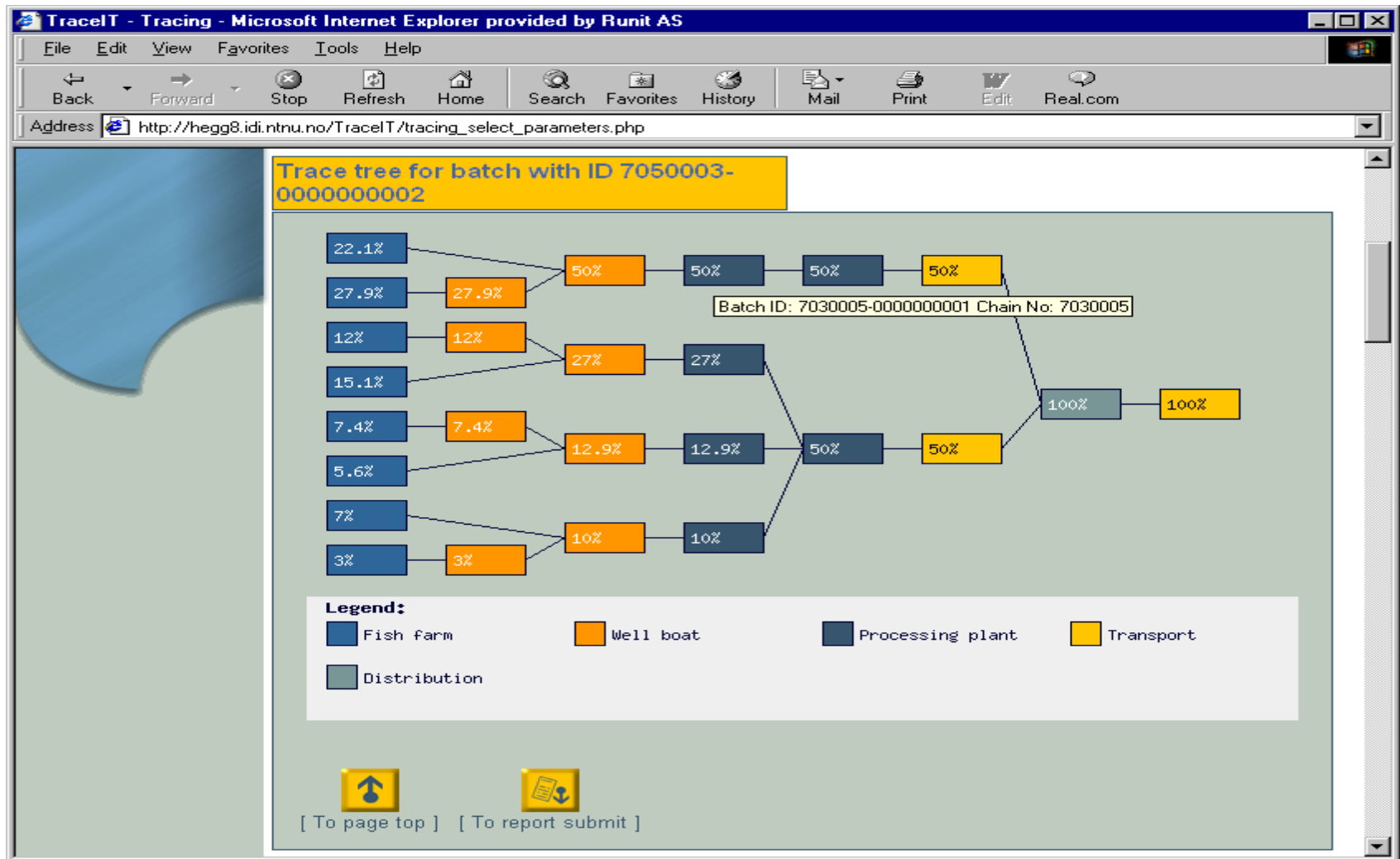
→ Methods and instruments used for authentication and testing that what we receive is what the documentation says.

# “Pull based” Chain Traceability

(Petter Olsen model)



# A Trace Tree - split and join



# Characteristics of the fish chain

- Fish is perishable
- Fish is often produced far from consumer
- Sometimes bad handling takes place
- 80-90% of documentation get lost between links
- Often the consumer do not know what he is eating;
  - origin
  - day of catch
  - processes (i.e. temperature chain)
  - remaining shelf life

# Relevance of food traceability systems

## Change in demands and attitudes:

- Customer product specifications (mainly supermarkets)
- EU-law
- Non governmental organizations
- Consumer awareness and demands



# Food scandals

- Dioxin in Belgian chicken
- E.coli 0157:H7 in Hudson Foods Company beef
- Mad cow disease
- Foot and mouth disease
- Scrapie

# Legislation - 1

EC 104/2000 and EC 2065/2001

*“EU regulation on the common organisation of fishery markets”,  
January 2002 (in effect now)*

- **Must specify:** species, production method (sea, inland, farmed) and area of origin
- **Applies to:** living, fresh, dried, salted, in brine, smoked and cooked fish, sold separately or prepackaged; also shellfish
- **Does not apply to:** canned fish, secondary processed fish, small quantities sold directly from fisherman to consumer

# Legislation - 2 and 3

*“Product Safety Directive”, January 2003 (proposal)*

- **Requires:** producer must have documented routines for recall, risk analysis and unique identification
- **Applies to:** all products to consumer

92/59/EC

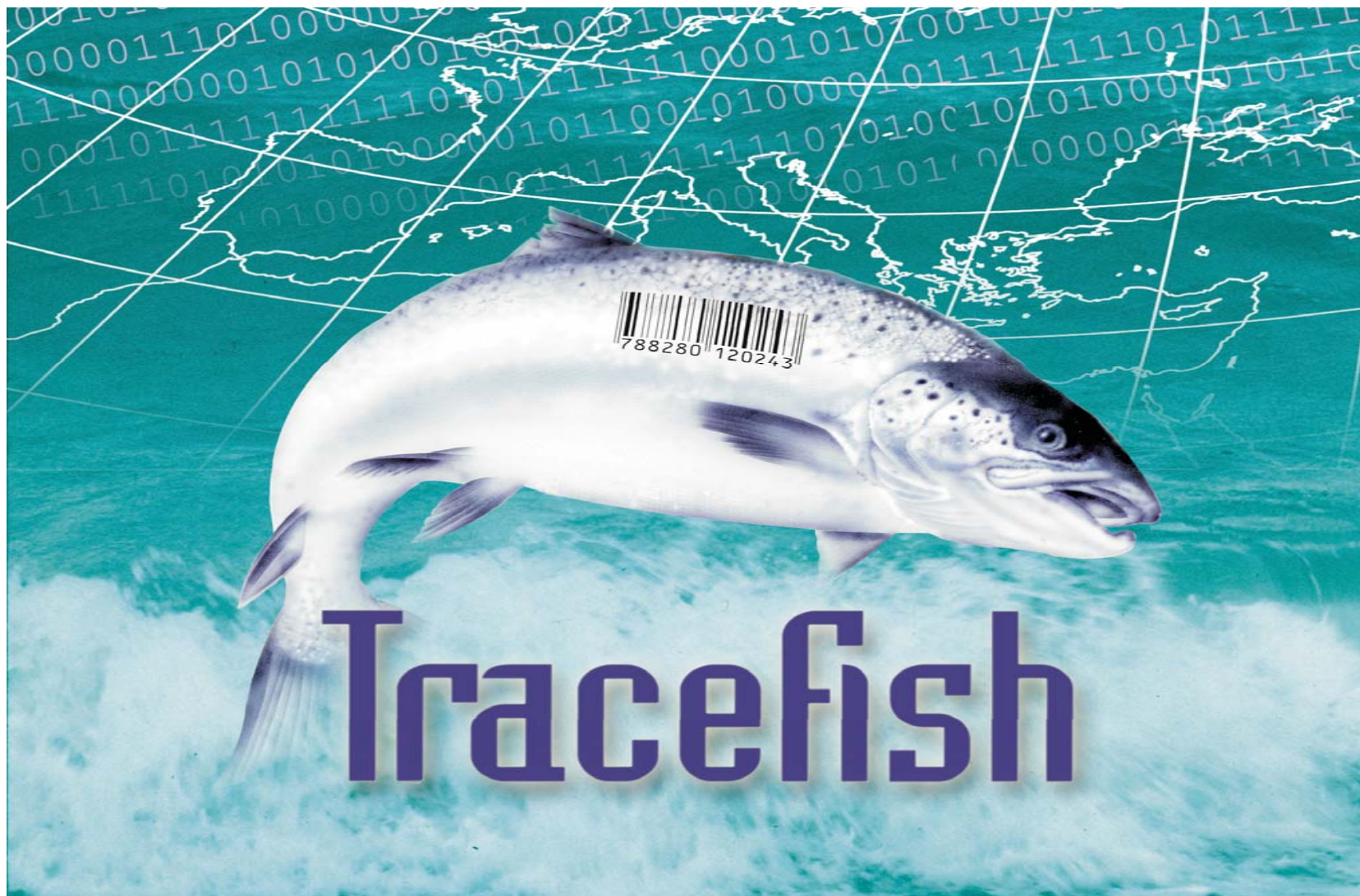
*“Hygiene of Foodstuffs Directive”, 2004 (proposal)*

- **Requires:** documented traceability for all links in the food chain (very likely ‘one-up, one-down’)
- **Applies to:** all producers of foodstuffs

93/43/EC

- Traceability of ingredients and additives (2005)

# The Tracefish project - 2001-2002



# Members

- 24 members from all over Europe
- 12 research institutes
- 12 industrial companies from the whole food chain
- Additional 50 companies strongly related to the project during the standardization process (i.e. fishing companies, farmers, processors, feed producers, supermarkets, equipment and software developers, certification companies, NGOs, + EUREP GAP/CIES, etc)
- Process not research driven!

# TRACEFISH - conferences

1. “State of the art”, with Nordic project, Copenhagen, May 22. 2001 (also 21./23.)
2. “Data content”, with CA-FQLM, Nantes, Sept. 2001
3. “Technical”, Amsterdam, March 2002
4. “Standards and implementation projects based on them”, (i.e. TRACEFOOD).

Consensus conference and final Work Shop, **Nov. 7th and 8th 2002, Torremolinos, Spain**

See [www.tracefish.org](http://www.tracefish.org)

# TRACEFISH - standards

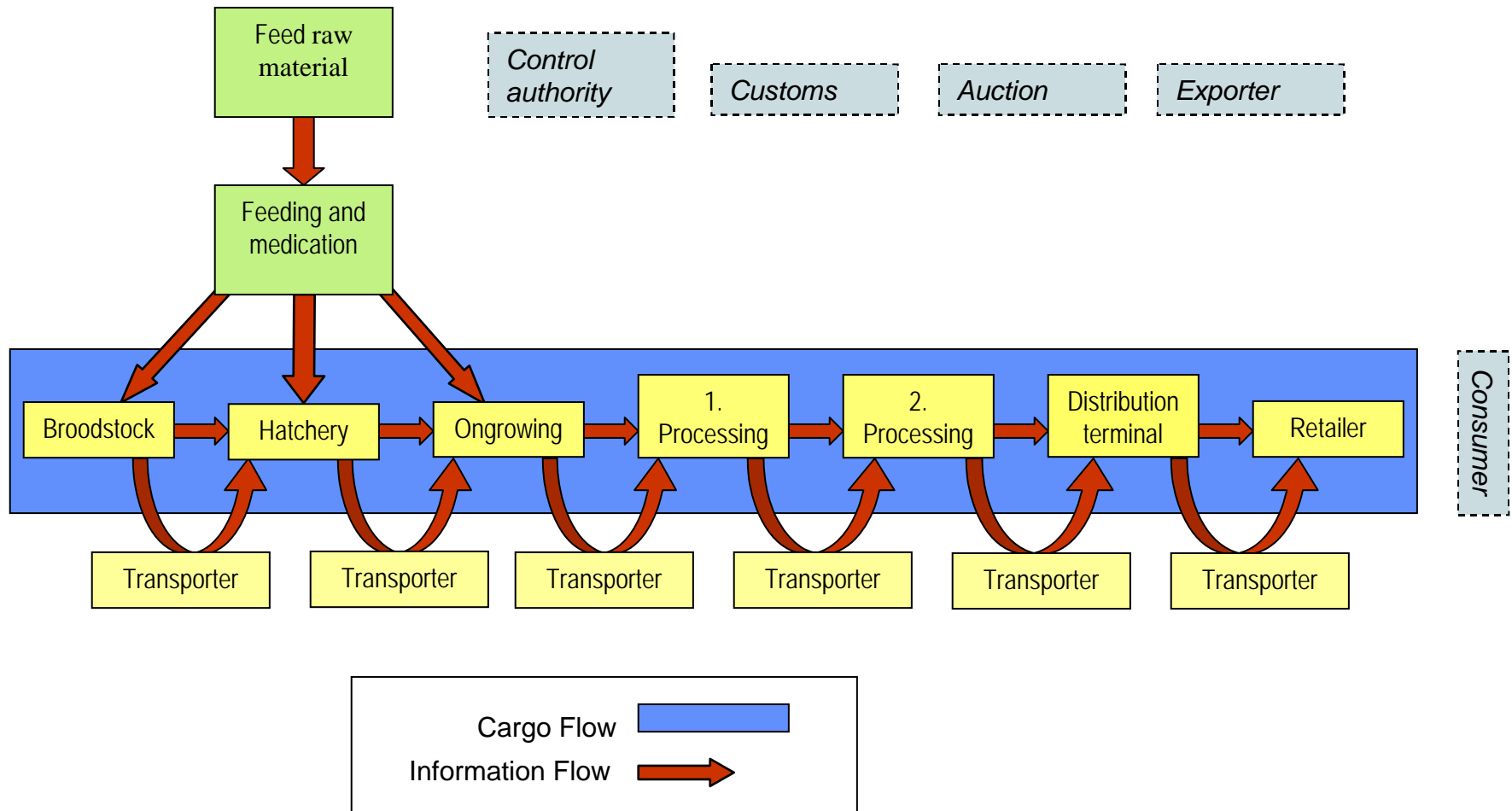
The CEN (WA) standards describes:

- for full-chain traceability, what data should be recorded how and where in the captured fish chain.
- for full-chain traceability, what data should be recorded how and where in the farmed fish chain.
- how should these data be coded, transmitted or made available in electronic form, what (existing) electronic standard should be chosen to facilitate the dissemination of these data.

The “fish standards” constitute a global language for fish trade



# Farmed Fish Chain Model





# Grouping of data elements

## ■ Shall

- Fundamental traceability data elements

## ■ Should

- Not fundamental traceability
- Other legal requirements
- Food safety
- Product properties
- Production and processes

## ■ May

- Ethics and sustainability
- Trade and logistics

# Farmed fish standard

Information	Details of Information	Examples	Categorisation		
			Shall	Should	May
Fish Farm					
Food business ID	Name and address of food business that operates fish farming establishment, (i.e. GLN)	Fjord Harvest Ltd 67345 Bergen (1234567989)	✓		
Fish farm establishment ID	Name, address and registration number of food processors subsidiary, department, etc.	Fjord Harvest Ocean site 2 67345 Bergen Norway (12345679890128)	✓		
FOR EACH TRADE/LOGISTIC UNIT RECEIVED					
Identities					
Unit ID	EAN SSCC (if received as a logistic unit) or EAN GTIN + date/batch number (if received as a separate trade unit)	SSCC: (00) 235467985462312345  GTIN + Batchno: (01) 07012345000001 (10) 0000000125	✓		
List of trade unit IDs	If received as a logistic unit, the IDs of the trade units within the logistic unit List of EAN GTINs + date / batch number	(01) 07012345000001 (10) 0000000125	✓		

## FOR EACH TRADE UNIT CREATED

### Identity

Unit ID	EAN GTIN + date/batch number	(01) 07012345000001 (10) 0000000125	✓		
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### Description of properties, production data, etc.

Farm unit ID	Internal number of fish farm cage/unit	5		✓	
Location of fish farm	County/area, longitude/latitude	Norway, <u>Hordaland</u>		✓	
Starving period	Number of days with no feeding before transport	10 days		✓	
Disease record	Names and period of diseases	ILA 03.03.02 – 04.04.02		✓	
Condition factor	Mathematic formula: Length (cm)/Weight (g) X 100	1,2			✓
Fat content	Measure of fat content in flesh	14%			✓
Color	Estimate or count of pigmentation of flesh according to i.e. the Roche scale	25			✓
Texture	Flesh texture (measured in Newton)				✓
Quantity	Kg	7.000 Kg			✓

# Standardene

- Standardene spesifiserer følgende:
  - Hva som skal registreres i hvert enkelt ledd i kjeden
  - At alle informasjonen man registrerer i en bedrift skal knyttes til følgende 3 stadier
    - Det man mottar fra andre (inngående partier)
    - Det man selv produserer
    - Det man sender fra seg (utgående varer)
  - En standardisert måte å identifisere enheter/partier, “sporbarhetsnivået” bestemmer man selv
  - En standardisert måte å holde rede på sammenstilling/splitting av enheter/partier

# Standardene

- Standardene er tilpasset både avanserte og mer enkle brukere (små og store bedrifter)
- Den tekniske standarden muliggjør elektronisk utveksling av all informasjon som spesifiseres i standardene, samt også nye dataelementer

# Benefits from Tracefish standards

- Fishing industry know what to register
- Easier for ICT companies to install traceability software
- Easier to communicate in the fish value chain and reduced costs in connection with information logistics, less re-punching
- Possible to trace back to source of error, surgical recall if something goes wrong
- More information gives better opportunity to find out how different properties influence quality and yield; optimising production
- Access to new value adding data, i.e. documentation of unbroken cooling chain and better estimation of remaining shelf life

# FoU-oppgaver

- Implementere standardene og evaluere dem
- Utarbeide implementasjonsmanualer
- Informasjon og opplæring
- Samarbeid på nordisk og EU-nivå
- Jobbe mot en ISO-standard

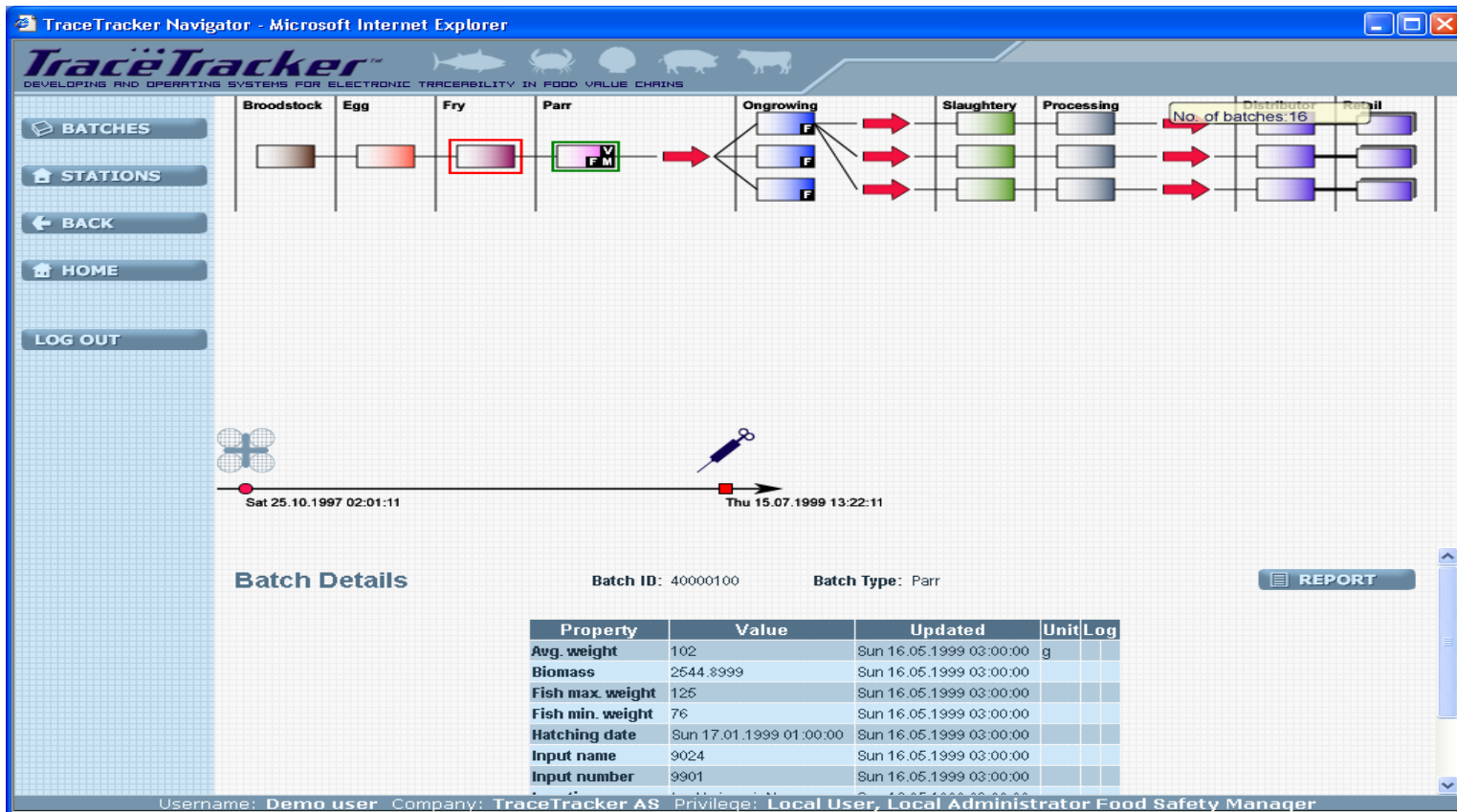
# European participants

<u>Industry</u>	<u>Name</u>	<u>Country</u>
Pieters	<u>Dirk Gilliaert</u>	Belgium
Difres	<u>Erling Larsen</u>	Denmak
E. leclerc	<u>Yves Boisard</u>	France
SIF	<u>Emmanuelle Rigot</u>	France
Silliker	<u>Ulrich Singer</u>	France
Friedrichs	<u>Eckhard Kämmler</u>	Germany
Lamanas s.a.	<u>Leonidas Papaharisis</u>	Greece
National Technical Univ.of Athens	<u>Maria Giannakourou</u>	Greece
National Technical Univ.of Athens	<u>Petros S.Taoukis</u>	Greece
Nireaus Group	<u>John Bellas</u>	Greece
EXEC	<u>Tom Scanlon</u>	Ireland
INDICOD	<u>Silvia Scalia</u>	Italy
Nutreco Aquaculture	<u>Edgar van den Berg</u>	Netherlands
Cimar - Univ Porto	<u>Alexandra Barbosa</u>	Portugal
Cimar - Univ Porto	<u>Paulo Vaz-Pires</u>	Portugal
Vensy España - Skandia	<u>Lillan Jensen</u>	Spain
Vensy España - Skandia	<u>Olga Martinez de Ubago</u>	Spain
Vensy Espania S.A.	<u>Nuria Berzosa Muñoz</u>	Spain
Aquascott	<u>Dennis Overton</u>	UK
EAN	<u>Philip Jerred</u>	UK
Shorescape Ltd	<u>Mark Wilder</u>	UK
Fao EastFish	<u>John Ryder</u>	UN



# Industrielle samarbeidspartnere

- TraceTracker (se [tracetracker.com](http://tracetracker.com))
- Kommersielt selskap som skal levere løsninger for elektronisk sporbarhet for ulike matvarer



# Norwegian participants

<u>AKVA Smart ASA</u>	<u>Elin Løvtangen</u>	Norway
Aqua Farms	<u>Steffen Lofnes</u>	Norway
AS Aalesundfish	<u>Ottar Ulla</u>	Norway
<u>Directorate for Nature Management</u>	<u>Arne Sivertsen</u>	Norway
<u>Directorate for Nature Management</u>	<u>Egil Postmyr</u>	Norway
EAN	<u>Jane Wulff</u>	Norway
EAN	<u>Knut Vala</u>	Norway
Essentia AS	<u>Anne Grete Kjørrefjord</u>	Norway
Essentia AS	<u>Kari Anne Lenvik</u>	Norway
<u>EWOS AS</u>	<u>Marit Engelstad</u>	Norway
Federation of Norwegian Fishing Industry	<u>Nils Kristian Sørensen</u>	Norway
Fjord Seafood ASA	<u>Håkon Brønstad</u>	Norway
Marine Harvest Norway	<u>Kurt O. Oppedal</u>	Norway
Marine Harvest Norway	<u>Tove P. Berge</u>	Norway
NAS	<u>Rolf Duus</u>	Norway
<u>Norway Royal Salmon AS</u>	<u>Asbjørn M. Stensvold</u>	Norway
Norwegian Colleges of Fishery Science	<u>Kine Andersen</u>	Norway
Norwegian Fed. of Fish and Aquaculture Industries	<u>Henrik Stenwig</u>	Norway
SGS Norway	<u>Amund Litlaboe</u>	Norway
Sintef Fisheries and Aquaculture	<u>Eskil Forås</u>	Norway
Sintef Fisheries and Aquaculture	<u>Hanne Digre</u>	Norway
Sintef Fisheries and Aquaculture	<u>Jostein Storøy</u>	Norway
Sintef Fisheries and aquaculture	<u>Marit Aursand</u>	Norway
The Norwegian embassy in France	<u>Einar Alme</u>	Norway
<u>VESO</u>	<u>Vidar Moen</u>	Norway
<u>WWF-Norway</u>	<u>Maren Aschehoug Esmark</u>	Norway